Iranian propolis supplement decreases the inflammatory interleukins in patients with type 2 diabetes: A randomized, double-blind, placebo-controlled, clinical trial

Mojgan Yousefi[1], Sima Hashemipour[2], Mohammad Reza Shiri-Shahsavar[1], Yaghob Koushan[3], Hossein Khadem Haghighian[1]

1.Department of Nutrition, School of Health, Qazvin University of Medical Science, Qazvin, Iran.
2.Metabolic Diseases Research Center, Qazvin University of Medical Sciences, Qazvin, Iran
3.Medical Plant Research Center of Islamic Azad University of Tabriz, Researcher in Traditional Medicine, Tabriz, Iran

Abstract:

Propolis, an important honeybee product, have ethno pharmacological nutrients since ancient times. It has a wide range of alleged applications including potential anti-inflammatory and antioxidant effects. The aim of this study was the investigation of the anti-inflammatory activity of Iranian propolis in type 2 diabetes mellitus (T2DM).

In the 8-week randomized double-blind controlled study, enrolled 60 patients with T2DM were randomly assigned to propolis group (n = 30) and control group (n =30). Propolis group received 500 mg three times a day for a total of 1500 mg/d of propolis pills, while the control group received similar pills, lacking propolis. Interleukin 6 and Interleukin 17 were measured at the baseline and at the end of the study. Statistical analysis was performed using SPSS software.

Eight weeks after drug administration, was a significant difference in mean IL-6 changes ($p=0.017$) between the two groups, and IL-17 in propolis treated group significantly decreased ($p=0.02$) in comparing with control group. Within groups analysis, the propolis group showed remarkable changes in IL-6 ($P<0.031$) and IL-17 ($P<0.015$). There was no significant reduction in IL-6 and IL-17 in the placebo group. The difference in the two groups was significant.

Based on this study, the daily intake of 1500 mg of Iranian propolis supplement for 8 weeks led to decrease inflammatory factors IL-6 and IL-17 in patients with T2D.